

Contribution ID: 13

Type: not specified

High stability resonant kicker system for Swiss Free Electron Laser (SwissFEL) at Paul Scherrer Institute

Monday 12 March 2018 17:00 (30 minutes)

"High stability resonant kicker system for Swiss Free Electron Laser (SwissFEL) at Paul Scherrer Institute"

To increase SwissFEL efficiency, a double bunch operation is planned in order to serve simultaneously two experimental stations at the full linac repetition rate. The kicker system has to separate two electron bunches that are 28 ns apart and send them to two separate beamlines. Since the stability of the electron beam is crucial for the performance of the free electron laser a novel concept of high stability resonant kicker based bunches separation was adopted. Sub-part-per-million pulse-to-pulse kickers'amplitude stability was measured using balancing method.

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Session Classification: Session 4 : Pulsed measurements and online monitoring and analysis